CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 94 - 057
NPDES NO. CA0005649

WASTE DISCHARGE REQUIREMENTS FOR:

PACIFIC GAS AND ELECTRIC COMPANY
HUNTERS POINT POWER PLANT
SAN FRANCISCO, SAN FRANCISCO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter the Board) finds that:

General Findings

1. Pacific Gas and Electric Company, Hunters Point Power Plant, (hereinafter discharger) submitted a National Pollutant Discharge Elimination System (NPDES) Permit Application dated December 20, 1993 for reissuance of NPDES Permit No. CA0005649.

2. The discharge of wastewater from this power plant is currently governed by Waste Discharge Requirements, Board Order No. 89-95.

3. The discharger has a capacity to generate approximately 396 Megawatt (MW) from three steam-electric generating units and currently discharges once through cooling water and low volume waste into Lower San Francisco Bay, a water of the United States.

4. The report of waste discharge describes the existing discharge as follows:

Discharge Outfall	Contributory Waste Stream	Annual Flow Average (mgd)
001	A. Once-through Cooling Water Discharge	266
	B. Intake Screen Wash	0.14
	C. Lubricating Water	0.0086
	D. Demusseling	0.6
002	A. Once-through Cooling Water Discharge Unit 4	146.3
	B. Lubricating Water	0.0029
003-013	Stormwater Runoff	0.0035

5. The discharger withdraws water form the San Francisco Bay from a shoreline surface water intake structure. Cooling water for this unit passes through bar rack and screen. The design approach and through-screen velocities are as follows:

Velocities	Intake - Unit 2&3	Intake - Unit 4
Approach Screen ft/sec	0.7	0.8
Through Screen ft/sec	1.7	1.6

6. The discharger cools the condenser by pumping water from the intake through the condenser to the point of discharge. The design capacities of the condenser and single speed pump are as follows:

Unit	Design Condenser Temperature Rise	Unit Pump Design Capacity (gpm)
2	21 deg F	89,000*
3	19 deg F	89,000*
4	15 deg F	101,600 (2 pumps)

* Two 40,000 gpm main unit and one 9,000 gpm house unit pump

7. EPA and the Board have classified this discharge as a minor discharge.

8. Boiler Chemical cleaning waste, oily sludge, fireside and waterside washes, regeneration waste, floor drains, and contaminated stormwater runoff are disposed off-site.

9. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay (Basin Plan) on December 17, 1986. The Board amended its Basin Plan on September 16, 1992 , and the State Board approved it on April 27, 1993, with approval from the Office of Administrative law pending. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations and discharge prohibitions intended to protect beneficial uses.

10. The Beneficial uses of the Lower San Francisco Bay and contiguous waters are:

a. Water Contact Recreation
b. Non-Contact Water Recreation
c. Wildlife Habitat
d. Preservation of Rare and Endangered Species
e. Estuarine Habitat
f. Fish Migration
g. Industrial Service Supply
h. Navigation
i. Commercial and Sport Fishing
j. Shellfish harvesting

11. Effluent limitation, and toxic and effluent standards established pursuant to Section 301, 304, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge

12. Effluent limitations guidelines requiring the application of the best practicable control technology currently available (BPT) have been promulgated by the EPA for the Steam Electric Power Generating Point Source Category (40 CFR Part 423.12). Effluent limitations of this Order are based on these guidelines, the Basin Plan, other State Plans and policies, and best professional judgement. The limitations are considered to be those attainable by BPT, in the judgement of the Board. BPT is equivalent to best conventional pollutant control technology (BCT) for the regulation ;of conventional pollutants for this discharger.

13. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21110) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

14. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. The Board, in a public hearing, heard and considered all comments pertaining to the discharge permit.

Findings Related to Thermal Effluent Limitations

16. The Clean Water Act (CWA) requires compliance with state Water Quality Standard for the discharge of thermal effluent. The State Board, on September 18, 1975, amended the Water Quality Control Plan for control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). The Thermal Plan requires existing elevated temperature waste discharges to enclosed bays to comply with limitations necessary to assure protection of beneficial uses.

17. The discharger submitted the results of studies on the thermal effects of the elevated temperature discharge on beneficial uses in 1973. These studies included investigations on the fish and other marine biota in the vicinity of the beneficial uses. These studies were supplemented with additional studies on pumped entrainment mortality as part of the Section 316(b) studies. No additional receiving water studies were required since discharge temperatures were relatively low and the potential impacts on aquatic resources were minimal.

18. In 1989, the Board and DF&G deemed necessary that a fishery survey be performed in the discharge area to determine the abundance of aquatic species in the area and any adverse impact to the aquatic habitat. This study was completed and a thermal effects assessment report was submitted by the discharger on February 28, 1991. The study showed that the existing discharge did not adversely affect the receiving waters and that beneficial uses were adequately protected at the Hunters Point Power Plant.

19. The Board finds that the present thermal discharge limits are sufficient to assure protection of beneficial uses.

Findings Related to Best Technology Available (BTA) for intake Systems

20. Section 316(b) of the CWA requires that the location, design, construction, and capacity of cooling water intake structures reflect the BTA for minimizing adverse environmental impact. The discharger submitted a 316(b) study report in January 1980 in order to comply with the CWA.

21. The impact of the discharger's intake cooling water system is a function of the number of organisms entrained (drawn into the cooling water system) and impinged (drawn into the intake screens).

22. The 316(b) Study showed that impingement losses of fish were low, primarily northern anchovy, both exhibiting large and highly productive populations in the Bay system. Entrainment losses were also low; primarily larvae and juveniles of gobies and pacific herring.

23. Entrainment survival is influence by physical, thermal, and chemical stresses. Over 98 percent of the discharge temperatures recorded during the study period were lower than 30 deg C. Chlorination did not appear to contribute substantially to entrainment mortality, because of low chlorine residuals, short exposure times, and the infrequency of chlorination (4 percent of the operating time).

24. The study indicated that most of the entrainment losses were due to predation by biofouling organisms lining the intake tunnels.

25. The Board finds that the existing cooling water intake systems for Units 2,3 and 4 and the continued use of thermal demusseling treatment or manual scraping to control biofouling organisms are the best intake technology available for minimizing adverse environmental impacts.

IT IS HEREBY ORDERED that the discharger in order to meet the provisions contained in Division 7 of the California Water code and regulations adopted thereunder and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the

following:

A. Prohibitions

1. The discharge of polychlorinated biphenyl compounds is prohibited.

B. Effluent Limitations

1. Discharge 001 shall not contain constituent in excess of the following limits:

a. Chlorine residual 0.0 mg/l, instantaneous maximum

b. pH 6.5 - 8.5

c. The discharge shall meet the following limits of toxicity:

The survival of three-spine stickleback and sanddabs in a 96-hour static renewal bioassay of the effluent shall be a 11-sample medium value of not less than 90 percent survival, and a 90 percentile value of not less than 70 percent survival. The 11-sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: If five or more of the past ten or fewer samples show less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.

90th percentile: If one or more of the past ten or fewer samples show less than 70 percent survival, then survival of less than 70 percent on the next sample represents a violation of the effluent limitations.

d. The temperature of the discharge shall not exceed a daily average of 86 deg F except on days when thermal demusseling treatment occurs. During thermal demusseling, the discharge temperature shall not exceed 100 deg F for more than four hours or a maximum of 110 deg F. Thermal demusseling shall not occur more than twice per month for each half condenser (there are two half condensers per unit).

2. Boiler blowdown shall not exceed the following:

Constituent	Units	30-Day Average	Maximum Day
Total Suspended Solids	mg/l	30	100
Oil and Grease	mg/l	10	20

3. The quantity of pollutants discharged from low volume wastes shall not exceed the quantity calculated from the flow of the waste sources times the concentration in mg/l in B.2.

C. Receiving Water Limitations

1. The discharge shall not cause the following conditions to exist in waters of the State at any place:

   a. Bottom deposits or aquatic growths;

   b. Alteration of turbidity or apparent color beyond present natural background levels;

   c. Visible, floating, suspended or deposited oil or other products of petroleum origin, and

   d. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or water fowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge shall not cause the following limits to be exceeded in water of the State at any place within one foot of the water surface:

   a. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

   b. Dissolved sulfide: 0.1 mg/l maximum

   c. pH The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from

normal ambient pH levels by more than 0.5 units.

d. Un-ionized ammonia (as N) 0.025 mg/l Annual Median, 0.16 mg/l maximum at any time.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such standards.

D. Provisions

1. The discharger shall comply with he attached Self-Monitoring Program as adopted by the Board and as may be amended by the Board pursuant to EPA regulations 40 CFR 122.62, 122.63, and 124.5.

2. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 89-95 adopted on June 21, 1989. Order No. 89-95 is hereby rescinded.

3. The discharger shall develop and implement a stormwater pollution prevention plan in accordance with the State Water Resources Control Board General Industrial Stormwater Permit, Section A: Stormwater Pollution Prevention Plan. The plan shall be submitted to this office by September 30, 1994.

4. The discharger shall comply with the limitations, prohibitions, and other provisions of this order immediately upon its adoption by the Board.

5. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated August 1993.

6. The discharger shall review and update by November 1 each year its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

7. This permit shall be modified or alternatively revoked and reissued to comply

with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(c), and d(d), 303, 304(b)(2), and 307(a))(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

(a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

(b) Controls any pollutant not limited in the permit.

8. All applications, reports, or information submitted to the Board shall be signed and certified pursuant to EPA regulations (40 CFR 122.41k).

9. Pursuant to EPA regulations [40 CFR 122.42(a)], the discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of toxic pollutants not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits included in 40 CFR 122.42 (a).

10. This Order expires on May 18, 1999 and the discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

11. Pursuant to EPA regulations 40 CFR 122.34, 122.62, and 124.5, this permit may be modified prior to the expiration date to include effluent limitations for toxics constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order.

12. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall take effect at the end of 10 days from date of adoption provided the Regional Administrator, Environmental Protection Agency, has no objections.

I, Steven R. Ritchie, Executive officer, do hereby certify the foregoing is a full, true , and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 18, 1994.

Steven R. Ritchie
Executive Officer

Attachments:

Standard Provisions dated August, 1993
Self-Monitoring Program
Location Map

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

PACIFIC GAS AND ELECTRIC COMPANY
HUNTERS POINT POWER PLANT, SAN FRANCISCO
CITY AND COUNTY OF SAN FRANCISCO

NPDES NO. CA0005649
ORDER NO. 94 - 057

CONSISTS OF
PART A
(DATED AUGUST 1993)

AND

PART B

SELF-MONITORING PROGRAM

PART B

DESCRIPTION OF SAMPLING STATIONS
AND
SCHEDULE OF SAMPLING, ANALYSIS & OBSERVATIONS

I. Sampling Station Location/Description

A. Influent

Station	Description
I-001	At any point in the influent stream and upstream of any treatment where representative samples of the influent can be obtained.

B. Effluent

Station	Description
E-001	At any point in the outfall for Unit 2 and 3 from which once-through cooling and low volume wastes are discharged, between the point of discharge to San Francisco Bay and the point at which all pollutants tributary to that outfall are present.
E-001C	At any point in the Lubricating stream prior to mixing with once-through cooling water from Units 2 and 3.
E-002	At any point in the outfall for Unit 4 from which once-through cooling water is discharged to San Francisco Bay and the point at which all pollutants tributary to that outfall are present.
E-002B	At any point in the Lubricating water stream prior to mixing with once-through cooling water from Unit 4.
E003 ~ 13	At any point in the outfall from each of the 11 storm drains from which stormwater runoff is discharged to San Francisco Bay.

II. Schedule of Sampling, Analysis & Observations

A. The schedule of sampling and analysis shall be that given in Table 1(attached).

B. Sample collection, storage, and analysis shall be performed according to the latest 40 CFR Part 136 or other methods approved and specified by the Board.

III. Miscellaneous Reporting

The discharger shall retain and submit (when required) the following information concerning the monitoring program for metallic pollutants.

a. Description of sample stations, times and procedures.

b. Description of sample containers, storage, and holding time prior to analysis.

c. Quality assurance procedures together with any test results from replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal and surrogate standards.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established by this Board.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions may be ordered by the Executive Officer or Regional Board.

Steven R. Ritchie
Executive Officer

Effective Date 5/18/14

Attachment:
Table I

TABLE I

SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

Station	Constituent	Units	Types of Sample	Frequency of Analysis
I-001	Temperature	deg F	----	Continuous
	Total Suspended Solids	mg/l, lb/day	24-hr composite	Monthly
E-001 E-002	Arsenic	ug/l, lb/day	24-hour composite	Semiannual
	Cadmium	ug/l, lb/day	24-hour composite	Semiannual
	Chromium	ug/l, lb/day	24-hour composite	Semiannual
	Copper	ug/l lb/day	24-hour composite	Semiannual
	Silver	ug/l, lb/day	24-hour composite	Semiannual
	Lead	ug/l, lb/day	24-hour composite	Semiannual
	Mercury	ug/l, lb/day	24-hour composite	Semiannual
	Nickel	ug/l, lb/day	24-hour composite	Semiannual
	Zinc	ug/l, lb/day	24-hour composite	Semiannual
	Thallium	ug/l, lb/day	24-hour composite	Semiannual
	Temperature	deg F	------	Continuous
	Flow	MGD	from pump data	Daily
	pH	pH units	Grab	Weekly
	Chlorine Residual	mg/l	Grab	Daily, when treating
	96 Hours Fish Bioassay	% survival	(1)	Monthly

Table I(cont.)

Station	Constituent	Units	Type of Sample	Frequency of Analysis
E-001 E-002	All Applicable Standard Observations			Monthly
E-001C E-002C	Total Suspended Solids	mg/l	Grab	Monthly
	Oil & Grease	mg/l	Grab	Monthly
	Flow	MGD	------	Monthly
E-003 ~ 0013	Oil & Grease	mg/l	Grab	Monthly(2)
	TOC	mg/l	Grab	Monthly(2)

LEGEND

FREQUENCY OF ANALYSIS

Monthly = once each month
Daily = once each day
Continuous = Average of at least eight measurements per day collected at three hour intervals
Semiannual = once each half a year

FOOTNOTE

1) The bioassay test shall be a static - renewal test using two test fish species (stickleback and sanddabs).

2) Stormwater discharges shall be sampled at each discharge location only if a discharge occurs.